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Does empowerment mediate the effects of psychological factors on mental health, well-being, and recovery in young people?

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Objectives. There is consensus that empowerment is key to recovery from mental health problems, enabling a person to take charge of their life and make informed choices and decisions about their life. However, little is known about the mechanisms through which empowerment affects mental health in young people. The current study involved young people aged 16–29 years and examined empowerment as a potential mediator of the relationship between psychological factors (psychosocial, cognition, coping, and control) and mental health, well-being, and recovery from personal problems.

Methods. A cross-sectional, Internet-based questionnaire study recruited 423 young people aged between 16 and 29 attending universities in England (n = 336) and Ireland (n = 87). Psychological factors, mental well-being, empowerment, and recovery from personal problems were measured using self-report measures.

Results. Mediation analysis in both the single and one over-arching mediator models revealed that empowerment mediates the relationship between psychological factors (psychosocial, self-efficacy, thinking style, coping, and control) and mental health, well- being, and recovery from general life problems.

Conclusions. This study demonstrates the importance of empowerment, showing that it mediates the relationship between psychological processes and mental health, well-being, and recovery in young people. Clinical implications for working with young people within mental health services, and facilitating their empowerment are discussed.

Practitioner points

- Empowerment is currently a poorly defined concept. This study demonstrates how empowerment mediates the relationship between psychological processes and mental health, well-being, and recovery in young people.
- Clinicians working with young people might benefit from a structured means of understanding and assessing the different ways in which individuals manage their thinking styles.
- Empowerment in young people is influenced by the manner in which clinicians facilitate them in establishing social networks in support of employment, education, family/social relations and to encourage young people to take an assertive role in their own care.

There is clear evidence that empowerment is key to achieving positive mental health, recovery, and well-being (Brosnan, 2012; Harper & Speed, 2012; Pitt, Kilbride, Nothard, Welford, & Morrison, 2007; WHO, 2009; Woodall, Raine, South, & Warwick-Booth, 2010). Empowerment has been recognized as a core element of health promotion in the Ottawa Charter on Health Promotion (Wallerstein, 2006). This charter states that people should be empowered to promote their own health, interact effectively with health services, and be active partners in managing their own illnesses. Also, patient empowerment produced improvement in self-regulated disease management, use of health services, and health disparity outcomes. Empowerment has also been frequently linked to improving the effectiveness and quality of care by enabling the individual to take greater control, expand their capabilities, and make informed choices and decisions about their lives (Cattaneo & Chapman, 2010; Fisher & Gosselink, 2008; Joseph Rowntree Foundation, 2006; Woodall *et al.*, 2010; Zimmerman & Rappaport, 1988). This literature asserts how empowering characteristics such as patient decision-making, effective dialogue between clinicians and patients, and coping skills, showed effective illness management, improved health behaviours, and mental health outcomes. These findings were also apparent in studies which focused on empowerment and health outcomes for individuals with chronic mental illness (Frame, 2003; Lorig, Sobel, Ritter, Lauren, & Hobbs, 2001; Lorig, Ritter, *et al.*, 2001; Melnyk *et al.*, 2004; Rosenfield, 1992). This literature demonstrates the positive impact of empowerment on one's self-efficacy, confidence, self-esteem, motivation, personal control, critical awareness, ability to problem solve, and skills development.

Subsequently, there is increasing recognition of empowerment being

important from the perspective of young people. Existing studies of empowerment in young people are based on youth empowerment models such as the Adolescent Empowerment Cycle (AEC; Chinman & Linney, 1998), the Transactional Partnering Model (TP; Cargo, Grams, Ottoson, Ward, & Green, 2003), the Youth Development and Empowerment (YD & E; Kim, Crutchfield, Williams, & Hepler, 1998), and the Empowerment Education model (EE; Freire, 1970). These youth models incorporate many of the key features of empowerment theory in adults, described by Rappaport (1987) and Zimmerman (1995), and focus on meaningful engagement through genuine participation between adults, youth, and organizations. Youth empowerment models (Cargo *et al.*, 2003; Chinman & Linney, 1998; Freire, 1970; Kim *et al.*, 1998) demonstrate the importance of empowerment for young people and this is particularly so for those with mental health difficulties. There is recognition that mental health services need to be empowerment-orientated (DfES, 2003, 2006; DH & DCSF, 2009; DoH, 2004).

The importance of empowerment in relation to mental health from an adult perspective is well documented (Brosnan, 2012; Frame, 2003; Garcia, Vasiliou, & Penketh, 2007; Harper & Speed, 2012; Pitt *et al.*, 2007; Starkey, 2003; WHO, 2010; Woodall *et al.*, 2010), but far less understood from the perspective of young people. Current conceptual definitions of empowerment are derived from research with adults and are problematic when applied to young people experiencing mental health problems. The current study examined empowerment as defined from a young person's perspective (Grealish, Tai, Hunter, & Morrison, 2013). This definition relates to the work of Rappaport (1987) who defined individuals as being empowered when they gain control over their lives, with emphasis on individuals being experts in their own expression through thoughts, feelings, actions, and beliefs. It is also consistent with Zimmerman's validation model of psychological empowerment (Zimmerman, 1995), which regards empowerment as a process which helps the individual gain control over their lives by equipping them with skills and abilities to act on issues that they define as important.

This is the first study within the literature exploring the relationship between psychological processes, empowerment, and mental health in young people. The psychological processes measured in this study were identified within a previous qualitative study, in which young people identified which psychological processes they perceived to be instrumental for feeling empowered (Grealish *et al.*, 2013). These findings were consistent with studies with adults which demonstrated that

empowerment is related to self-efficacy (Moattari, Ebrahimi, Sharifi, & Rouzbeh, 2012; Small, Bower, Chew-Graham, Whalley, & Protheroe, 2013; Walker & Donaldson, 2011), a sense of coping strategies (Ben-Zur & Yagil, 2005; Gutierrez & Nurius, 1994; Wallerstein, 1993), perceived control (Anderson & Adams, 1996; Koelen & Lindstorm, 2005; Conger & Kanungo, 1988; WHO, 2010), thinking style (Thomas & Velthouse, 1990), and psychosocial (Logan & Ganster, 2007). Furthermore, these psychological factors, within adults, have also been associated with better mental health, well-being, and recovery from mental health difficulties (Bonney & Stickley, 2008; Kinderman, Schwannauer, Pontin, & Tai, 2011; Neil *et al.*, 2009; WHO, 2009). Despite increasing recognition of empowerment being important from the perspective of young people with mental health difficulties and the need for services to be empowerment-orientated (DH & DCSF, 2009; DoH 2004, 2006), there is almost no research exploring the psychological mechanisms through which an individual experiences feeling empowered amongst young people. A brief rationale for the psychological processes targeted in the current study will now be provided.

Self-efficacy is a thinking style that influences a person's behaviours, judgments, and belief ability to succeed in a particular situation (Bandura, 1994). Bandura (1994) found that higher levels of self-efficacy enhanced human accomplishment and personal well-being, whilst those with lower levels of self-efficacy found challenges threatening, and often gave up when faced with challenges. This suggests that self-efficacy in young people with mental health problems is related to increased confidence in their own abilities to exercise greater control over difficult situations.

Personal control is embedded within Rotter's social learning theory (Rotter, 1966, 1982) of locus of control, which reflects an individual's belief that they are able to control the outcomes of events. Marmot, Friel, Bell, Houweling, and Taylor (2008) and Syme's (2004) work on social determinants of health provides good evidence for this. Their work is important in relation to empowerment and control in the general population as they argued that the more control one has over things that are important to them, the better their mental and physical health is.

The development of coping skills in adolescence is an important factor in helping young people to maintain positive adaptation to stressors as psychosocial stress can occur as a result of significant adversity (Compas, Conner-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Coping is the key foundation to empowerment,

as it helps to foster personal resilience through the utilization of resources. The positive effects of having coping strategies, such as dealing with the symptoms of psychosis, is well evidenced in the literature (Goldberg, Wheeler, Lubinsky, & Van Exan, 2007; Tarrier, 2000; Zeidner & Endler, 1996; WHO, 2010).

Reduced thought control and negative beliefs are characteristics of people with psychosis (Hutton, Morrison, Wardle, & Wells, 2014; Morrison, 2001; Morrison & Wells, 2007; Varese, Barkus, & Bentall, 2012). Young people with psychosis reported being able to control their thoughts made them feel empowered (Grealish *et al.*, 2013).

People with mental health problems often experience poor levels of social adjustment, difficulties with interpersonal relationships, and have problems forming adequate supportive social networks (Brenner *et al.*, 1994; NICE, 2009; Roder, Mueller, & Schmidt, 2011; Weissman, Markowitz, & Klerman, 2007). Psychosocial can help with the interpersonal difficulties and reduction in social contacts associated with psychosis (NICE, 2009; Roder *et al.*, 2011). Supporting young people to access education and employment can be empowering as these activities can reduce social isolation and exclusion from social relationships and the wider community (Royal College of Psychiatrist, 2010; Wallerstein, 2006).

Empowerment clearly affects psychological processes, with the potential to influence mental health, well-being, and recovery in young people. What is unclear is how empowerment and psychological processes are linked. In the current study, we consider that mental health problems are based on normal processes that are on a continuum with 'good' mental health at one end and severe mental illness at the other (Dogra, Parkin, Gale, & Frake, 2002). Population-based studies have demonstrated how psychotic symptoms are common, with a prevalence rate of 5–8% in the general population, which is approximately ten times higher than the prevalence of diagnosed psychotic disorders (Kelleher *et al.*, 2012; Moffitt *et al.*, 2010; van Os, 2003; van Os, Hanssen, Bijl, & Ravelli, 2000; van Os, Linscott, Myin-Germeys, Delespaul, & Krabbendam, 2008). Berry, Wearden, Barrow- clough, and Liversidge (2006) and van Os *et al.* (2000) highlight the use of non-clinical samples in psychosis research and how this is increasingly popular due to the recognition that psychotic symptoms are on a continuum with normal experiences and can contribute to the understanding of psychosis. Therefore, there is clear justification for exploring the role of empowerment in a non-clinical population. The relationship between psychological variables, empowerment, and well-being is hypothesized to be common to all young people, so may be understood by looking at a non-clinical

population. These findings might then be applied to young people with mental health difficulties.

Aim

The current study aimed to explore the relationship between psychological processes (self-efficacy, control, coping, thinking style, and psychosocial) empowerment, and mental health, well-being, and recovery. We hypothesized that empowerment will mediate the impact of these psychological processes on mental health, well-being, and recovery.

Methods

Reporting of the current study is in accordance with The Checklist for Reporting Results of Internet E-surveys (CHERRIES; Eysenbach, 2004). This checklist provides recommendations for the level of detail required for reporting fully the methodology and results of Web surveys. Guidance recommends providing details such as informed consent, survey design, participation and completion rate, validity, and reliability of questionnaires, which are described in the current paper.

Participants

A cross-sectional, Internet-based self-report questionnaire study was conducted. Consent to approach students was obtained from all institutions through which recruitment took place. Once consent was received from the institution, young people were invited to take part through email which advertised a web-based study investigating whether empowerment mediates the effects of psychosocial factors on well-being in young people. Individual online consent was obtained from all participants prior to participation.

Measures

Eleven self-report measures were administered through an Internet-based webpage using SelectSurvey, taking approximately 40 min to complete. For logistical reasons, the measures were presented in the same fixed order to each participant.

Measures of psychological processes

Self-efficacy. The General Self-Efficacy Scale (GSE; Sherer *et al.*, 1982) is a 30-item self- report questionnaire that measures the participants' general self-efficacy expectations in relation to educational, vocational, and social domains. Responses to statements are scored on a 5-point Likert scale of 1 (disagree strongly) to 5 (agree strongly). Higher scores indicate greater self-

efficacy.

Control. Rotter's Internal and External (I-E) locus of control scale (Rotter, 1966) consists of 23 forced choice (internal vs. external statements) and six self -report inventory for a total of 29 paired statements. Responses to statements in items 2a, 3b, 4b, 5b, 6a, 7a, 9a, 10b, 11b, 12b, 13b, 15b, 16a, 17a, 18a, 20a, 21a, 22b, 23a, 25a, 26b, 28b, 29a were given each a one point score, whilst the remaining six items were scored as zero. Scores can range from high internal locus of control (0–7) to a high external locus of control (19–23) (Rotter, 1966, 1975).

Coping. The Brief COPE is a self-administered scale developed to identify coping response to stressful situations either generally or on specific occasions (Carver, 1997). The Brief COPE Inventory is consistent with the factor structure of the longer full inventory of the COPE (Carver, Scheier, & Weintraub, 1989). The Brief COPE is composed of 28 items and yields 14 subscales with two items for which psychometric properties measure emotion-focused, problem-focused, and dysfunctional coping. Responses are scored on a 4-point Likert-type scale of 1 (I haven't been doing this at all) to 4 (I've been doing this a lot), querying a variety of different coping methods (e.g., receiving emotional support from others, criticizing oneself). The total score for each scale is found by adding the items together with higher scores indicating greater intensity of use of the coping strategy.

Psychosocial. The Significant Others Scale (SOS) (Power, Champion, & Aris, 1988) measures emotional and practical psychosocial. Scores for actual and ideal levels of psychosocial for a range of key relationships in a person's life are obtained. The current study utilized the short flexible SOS which asked the respondent to rate four potentially important relationships. Respondents were asked to rate that relationship to the *actual* levels of support they receive and their *ideal* levels of support on a 7-point Likert scale of 1 (never) to 7 (always). A total score was obtained by summing the items to achieve a total score at an individual level; the higher the score, the greater the frequency of support. The number of support figures gives a measure of structural aspects of support, whereas scores on emotional and practical functions give a measure of the quality of support.

Thinking style. Three self-reported measures were employed: the Thought Control Questionnaire (TCQ; Wells & Davies, 1994), Dysfunctional Attitude Scale (DAS; Weissman & Beck, 1978), and the Brief Core Schema Scale (BCSS; Fowler *et al.*, 2006).

(1) Thought Control Questionnaire (TCQ): The TCQ is a 30-item self-report measure that assesses the frequency with which individuals use distraction, worry, punishment, reappraisal, and social control strategies to cope with unpleasant and unwanted thoughts. Items are scored on a four-point Likert-type scale of 1 (never) to 4 (almost always). The TCQ measures five factors (each based on six questionnaire items) that represent different strategies for controlling unwanted thoughts: distraction; social control; worry; punishment; and reappraisal. A total TCQ score can be obtained by separately summing the six items for each of the five subscales with higher scores indicating greater use of strategy.

(2) Dysfunctional Attitude Scale (DAS): The DAS is a 40-item self-report measure for assessing attitudes associated with depressive symptoms. The DAS contains items that identify specific patterns of maladaptive thinking which are presented in seven major value systems: approval, love, achievement, perfectionism, entitlement, omnipotence, and autonomy. Ten items represent functional beliefs and the other thirty items represent dysfunctional attitudes. Items are scored on a 7-point Likert scale of 1 (disagree totally) to 7 (agree totally), and a total score can be obtained by summing the forty items. It has a very good internal consistency and stability.

(3) The Brief Core Schema Scale (BCSS): The BCSS is a 24-item self-report measure of core beliefs about self and others. It was specifically designed for clinical and non- clinical populations experiencing symptoms of psychosis. Participants were asked to indicate whether they held each belief using a dichotomous 'no' or 'yes' format. If they answered yes to holding that belief, they were then required to indicate how strongly they held the belief on a 4-point Likert-type scale of 1 (believe it slightly) to 4 (believe it totally). Four subscales scores are calculated: negative beliefs about self (six items), positive beliefs about self (six items), negative beliefs about others (six items), and positive beliefs about others (six items). Total scores for each of the four subscales can range from zero to 24 with higher scores indicating higher belief conviction or greater endorsement of items.

Measures of empowerment. The Youth Empowerment Scale (YES) (Grealish, 2014) is a 21-item self-report measure, developed on the basis of statements derived from interviews with service users' about their understanding and experience of empowerment (Grealish, 2014). Each item is rated on a 4-point Likert scale of 1 (not at all) to 4 (very much

so) with higher scores indicative of empowerment. A total score can be obtained by summing the 21 items to achieve a total test score. The YES has excellent internal consistency and stability. Grealish (2014) found a Cronbach's alpha internal consistency value of a = .89.

Measures of mental health, well-being, and recovery. Three self-reported outcome measures were also obtained: the 12-Item General Health Questionnaire (GHQ-12; Goldberg & Williams, 1988), the BBC Well-being Scale (Kinderman *et al.*, 2011), and the Questionnaire about the Process of Recovery (QPR; Neil *et al.*, 2009).

(1) General Health Questionnaire (GHQ-12): The GHQ-12 (Goldberg & Williams, 1988) consists of 12 items, which assess the severity of a mental problem over the past few weeks rated on four responses from 'better than usual' to 'much less than usual'. The GHQ-12 was scored using both the bimodal (0-0-1-1) and Likert method (0-1-2-3). The bimodal scoring was selected to determine the participants' level of mental well- being (Goldberg & Williams, 1988) which yields a possible score range of 0–12. The cut-off point for GHQ-12 varies from one study to another and to date there has been no best threshold to adopt for the GHQ in different settings. In this study, a cut-off point of 3 was used to determine the participants' level of mental well-being (i.e., a score of 3 or more indicates possible psychiatric 'caseness'), as this is the most common cut-off score recommended in the literature (Cano *et al.*, 2001; Goldberg & Williams, 1988; Goldberg *et al.*, 1997, 2007). The Likert scoring was selected as it produces a superior mean scores appropriate for correlational analyses and intergroup comparisons based on parametric statistics Campbell & Knowles, 2007; Goldberg *et al.*, 1997). The Likert scoring generates a total score ranging from 0 to 36 with higher scores indicating greater levels of general psychiatric distress (worse health) and lower general well-being.

(2) BBC Well-being Scale: The BBC Well-being Scale (Kinderman *et al.*, 2011) is a 24- item self-report assessment of general well-being, which contains three subscales: subscale 1 relates to psychological well-being which is represented by 12 items (5 to 16); subscale 2 relates to physical health and well-being and these are represented by seven items (1–4 and 22–24); subscale 3 relates to relationships which are represented by items five items (17–21). Each item is rated on a 5-point Likert scale ranging from 0 (not at all) to 4 (extremely) with higher scores indicative of well- being.

(3) Questionnaire about the Process of Recovery (QPR): The QPR (Neil *et al.*, 2009) is a 22-item self-report measure assessment of

personal recovery from psychosis. As personal recovery is something experienced rather than assessed by an expert, this self-report measure was deemed appropriate for this study as it reflects the wider aims of recovery including quality of life and social relationships. It measures two domains of recovery, intrapersonal and interpersonal factors. Each item is rated on a 5-point Likert scale ranging from 0 (disagree strongly) to 4 (agree strongly) with higher scores indicative of recovery.

Ethical approval

The current study was granted ethical approval (reference number: 653/07P) from the region of health education North West.

Statistical analysis

The data were analysed using Statistical Packages for Social Sciences (SPSS version 20.0, IBM Corp., Armonk, NY, USA) and Mplus (version 4.2) (Muth en, 2011; Muth en & Muth en, 1998–2012). Frequency and descriptive statistics were presented for the demographic variables and measures of interest. Pearson's correlation coefficients were calculated pairwise between total scores of all measures.

To perform the mediation analysis, Mplus was used to estimate the total effects and decompose these into direct and indirect effects. All the psychological variables were initially evaluated separately in a single-mediator model to estimate the direct and indirect effects. Then, all the psychological variables were included in one over-arching model. Figure 1 illustrates a single mediation model with the coefficient for X in a model for M (labelled a), and b and c as the coefficients in a model regressing Y on both M and X, respectively. The total effect of X on Y can be expressed as the sum of the direct and indirect effects, where the indirect effect is computed as a*b. Preacher and Hayes (2008) argue that bootstrapping is the most powerful test of the indirect effect, and we used a bootstrap procedure with 1,000 replications to compute 95% confidence limits of the mediated effect. Mediation was assessed by determining whether or not the confidence interval for the indirect effect contains zero. All models adjusted for age and gender as possible confounders of the X-M, X-Y, and M-Y relationships. The framework described above is easily extended to multiple X variables. All models assume that the data are missing at random (MAR) (Kenward & Molenberghs, 1998).

Results

Participants

Four hundred and twenty three (n = 423) participants completed the measures, 273 females and 150 males. Participants were aged between 16 and 29 years (mean age was 23.21 years (*SD*: 3.62). All participants were attending universities: three universities in England (n = 336) and one university in Ireland (n = 87). The ethnic groups within the sample were as follows: White British 46.68% (n = 203), White Irish 25.0% (n = 109), Black British 11.5% (n = 50), Black Other 5.5% (n = 24), Pakistani 3.2% (n = 14), Indian 3.7% (n = 16), and Other 1.6% (n = 7). Participants were asked to provide details of their current educational or organization status and city they live in.

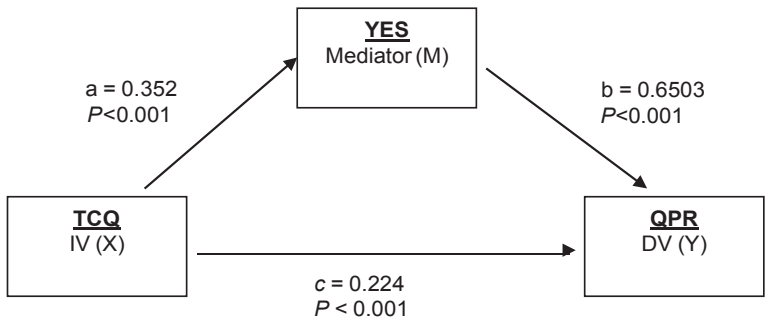

Figure 1. Illustration of mediation where *IV* affects *DV* indirectly through *M*. Example shows Thought Control Questionnaire (TCQ) as the IV, Youth Empowerment Scale (YES) as the mediator, and Questionnaire about the Process of Recovery (QPR) as the DV.

Descriptive data from the standardized measures (total scores) are presented in Table 1.

GHQ-12 threshold scores for identifying mental well-being

The descriptive analysis for the GHQ-12 bimodal scoring from 407 (93.3%), participants, 29 missing (6.7%). The mean total score was 2.87 (SD = 3.51). Using the cut-off point of 3 to estimate the level of possible mental health difficulties in the sample, the study revealed that 160 (39.3%) of the respondents scored 3 or more on the GHQ-12. These findings indicate that the proportion of students with good mental well-being was slightly higher than those showing to be vulnerable to developing possible psychiatric 'caseness'.

Correlations

Pearson correlation coefficients were calculated pairwise between total scores on all measures to test whether empowerment was significantly associated with self-efficacy, control, coping, thinking style, psychosocial, mental health, well-being, and recovery. It was predicted that empowerment would be positively associated with all the scales except the DAS, GHQ-12, and BCSS which would be negatively correlated. The results in Table 2 indicate that all measures correlated significantly with the YES (all correlations $p < .01$). The coefficients indicated that higher levels of empowerment equate to higher levels of recovery, mental health, and well-being.

Mediation analysis

All the psychological variables were initially evaluated separately in a single-mediator model to estimate the direct and indirect effects. The total direct and indirect effects outputs in the single-mediator model are presented in Table 3.

(1) The total effect was significant for all relationships ($p < .05$) except for BCOPE and RLC with GHQ-12. There was an association between psychosocial, self-efficacy, thinking style, coping, and locus of control on well-being, mental health, and recovery except for psychosocial and locus of control on mental health.

(2) The direct effect c path (X to Y controlling for the M) was significant for the following relationships: SOS with QPR, GSE with QPR and BBC, TCQ with QPR, DAS with QPR and BBC, and BCOPE with BBC and GHQ-12. There were no significant direct effects between RLC and the three dependent variables.

Table 3 provides the indirect effects (path *a*b)* for each combination of independent and dependent variables.

The results in the single-mediator model revealed a significant indirect

effect through empowerment for the SOS, GSE, TCQ, DAS, BCOPE, BCSS, and RLC on all outcomes, where the confidence interval did not include 0, indicating that there is a statistically significant indirect effect.

All the psychological variables for all cases (n = 423) were then included into one over-arching model. The total direct and indirect effects outputs in this model are presented in Table 4.

(1) The total effect was significant for all relationships highlighted in grey in Table 4. There were significant associations for SOS with QPR, GSE with GHQ-12, QPR and BBC, TCQ with GHQ-12 and QPR, DAS with GHQ-12, QPR and BBC, BCOPE with GHQ-12 and BBC, and BCSS with GHQ-12. RLC did not have any significant total effects.

(2) The direct effect *c* path (X to Y controlling for the M) was significant for the following relationships: SOS with QPR, GSE with QPR and BBC, TCQ with QPR, DAS with BBC and BCOPE with GHQ-12. There were no significant direct effects between BCSS and RLC and the three dependent variables.

Table 4 provides the indirect effects (path *a*b)* in the over-arching model for each combination of independent and dependent variables. The results revealed significant indirect effects for all indirect paths with the exception of SOS to BBC, and RLC to BBC.

Discussion

The current study aimed to identify whether empowerment mediates the relationship between psychological processes (self-efficacy, psychosocial, thinking style, coping, and locus of control) and mental health, well-being, and recovery from personal problems in a general population of young people. As hypothesized, psychosocial (SOS), self-efficacy (GSE), thinking styles (TCQ, BCSS, and DAS), coping mechanisms (COPE), and locus of control (RLC), directly predicted mental health, well-being, and recovery; but the relationship was mediated by empowerment in both the single and one over-arching mediator models with the exception of psychosocial (SOS) and locus of control (RLC) on well-being (BBC). The results indicate that empowerment might be mechanism contributing to better mental health, well-being, and recovery. This has important implications for our understanding of the mechanistic role of empowerment in young people.

Participants who reported greater perceived control over unwanted thoughts (TCQ) and fewer cognitive distortions (DAS) scored higher on indicators of better mental health, well-being, and recovery from

personal problems. These associations were mediated by empowerment in both the single and one over-arching mediator models. This suggests that distress can be managed by targeting beliefs and attitudes. Studies by Abramowitz, Whiteside, Kalsy, and Tolin (2003), Morrison and Wells (2007), and Morrison, Frame, and Larkin (2003) demonstrated that punishment and worry-based strategies are associated with psychological dysfunction, whilst distraction and reappraisal may be helpful. Grant and Beck (2009) also found that defeatist beliefs regarding performance correlates with cognitive impairment, negative symptoms, and poor functioning in schizophrenia. They argued that by eliciting and modifying defeatist performance beliefs, it is possible to increase engagement in constructive activity, which was consistent with the study by Grealish *et al.* (2013).

The current study also found that empowerment partially mediates psychosocial, whereby participants reporting better psychosocial on the SOS were more likely to have better mental health, well-being, and recovery in both the single and one over-arching mediator models with the exception of psychosocial (SOS) on well-being (BBC). These findings are consistent with other studies which emphasize on the negative impact of social impairment and isolation on people with mental health problems on the their ability to engage in employment, education, family, and social relations (Brenner *et al.*, 1994; Logan & Ganster, 2007; NICE, 2009; Roder *et al.*, 2011; Weissman *et al.*, 2007). The emphasis on psychosocial and meaningful connections between young people and clinicians was strongly associated with empowerment in the study by Grealish *et al.* (2013). Young people reported how the lack of supportive and interpersonal relationships was seen as disempowering as it hindered their access to education, employment, and social relationships, thus increasing their social isolation. Studies by Addington, Penn, Woods, Addington, and Perkins (2008), Pitt *et al.* (2007), and Wood, Price, Morrison, and Haddock (2010) show how psychosocial can help with the interpersonal difficulties and reduction in social isolation and exclusion which is often associated with psychosis. Our results show that psychosocial factors might improve empowerment, which might in turn improve symptoms. Therefore, clinicians should facilitate young people establishing social networks, as this can empower them to engage in employment, education, family, and social relations.

The current study also found that empowerment mediates the effects of locus of control (RLC) and coping (BCOPE) on mental health, recovery, and well-being in both the single and one over-arching mediator models with the exception of locus of control

(RLC) on well-being (BBC). In accordance with previous findings, there is an important association between empowerment and control (Hansson & Björkman, 2005; Leksell *et al.*, 2007; Marmot, 2007; Rogers, Chamberlin, Ellison, & Crean, 1997; Rappaport, 1987; WHO, 2010; Woodall *et al.*, 2010). Previous research has demonstrated that individuals cannot achieve their greatest health potential unless they perceive they have control of the things that determine their health. The current study further validates this finding and also corroborates what young people with mental health problems reported in the study by Grealish *et al.* (2013) in that control was crucial to being able to experience feelings of empowerment, enabling them to exert influence over their care, decision–making, and other difficulties. Individuals who have the capacity to take control are likely to experience empowerment whilst those unable to do so will not experience empowerment resulting in reduced motivation and productivity. Our findings are also consistent with literature suggesting that empowerment and coping are interconnected and interdependent which leads to better outcomes (Compas *et al.*, 2001; Goldberg *et al.*, 2007; Nuechterlein, 1987; Walker & Donaldson, 2011; Woodall *et al.*, 2010; WHO, 2010). As young people reported in the study by Grealish *et al.* (2013) coping is a key precursor to feeling empowered and in turn, this further enables the development of coping strategies required for dealing with stressful events and personal problems. The WHO (2009, 2010) also identified coping as the foundation of empowerment. The current study has implications for clinicians who might aim to facilitate young people being empowered to take charge of their own health by encouraging their confidence in and ability to play an assertive role in their own care.

Finally, the current study also examined the role of self-efficacy on mental health, well-being, and recovery from personal problems and found that empowerment mediates the effects of self-efficacy on mental health, recovery, and well-being in both the single and one over-arching mediator models. The current study has demonstrated that empowerment can influence whether young people experience self-efficacy. This further supports Bandura's theory of self-efficacy, which purports that higher levels of self-efficacy improve individuals' sense of accomplishment and personal well-being (Bandura, 1994). Walker and Child (2008) also demonstrated that young people with serious mental health conditions who had higher levels of empowerment, self- determination, and self-efficacy were more likely to have improved health outcomes. Clinicians working with young people are encouraged to ensure individuals have confidence in their own abilities to exercise greater control over difficult to control situations.

Strengths and limitations

This is the first known study that has examined whether empowerment mediates the relationship between psychological processes (self-efficacy, psychosocial, thinking style, coping, and locus of control) and mental health, well-being, and recovery from personal problems in a general population of young people. Some of the methodological constraints need to be acknowledged when interpreting the results and consider possible future research directions. Several authors (Emsley, Graham, & White, 2010; MacKinnon, Fairchild, & Fritz, 2007; MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002) highlight that mediation analysis can rely on untestable assumptions. Prominent amongst these is the assumption that there are no unmeasured confounders which could account for any observed associations, and the cross-sectional study design. Due to the nature of the study design, we were unable to collect and adjust for any other possible confounders in this analysis besides age and gender, and so results are considered to be associational rather than causal effects. The cross-sectional design can limit the conclusions over the causal directions of the relationships between associated variables and how these relationships can be most likely be bidirectional.

Our findings were entirely based on a non-clinical data from young people attending university and therefore were not epidemiologically representative. This has implications for the extent to which findings from this sample (n = 423) can be generalized to young people with mental health problems, particularly psychosis across the clinical population. Although this study used measures specifically for people with mental health problems, all the measures positively and inversely correlated from the non-clinical sample. Berry *et al.* (2006) and van Os *et al.* (2000) highlight the use of non-clinical samples in psychosis research and how this is increasingly popular due to the recognition that psychotic symptoms are on a continuum with normal experiences and can contribute to the understanding of psychosis. Even so, despite the benefits of using a non-clinical population, it is possible that the results might not be replicated in a clinical population. The conclusion from our findings is that empowerment mediates the impact of psychological processes such as: psychosocial, thinking style, coping, and control. Further research using the same measures in a clinical population would help to confirm or refute these findings.

The methodological constraints to a cross-sectional Internet-based design and the CHERRIES checklist (Eysenbach, 2004) need to be considered in the current study. The sample was self-selected students from four different universities, recruited by email. The gender ratio

consisted of a higher number of female participants (58%). Freeman *et al.* (2005) highlighted that people who often self-select for questionnaires type studies may be more prone to psychological problems. This raises issues concerning whether the measures were sufficient to capture the individual's mental health experience, and whether any of the participants had received treatment for a previous psychiatric disorder. Additionally, there is the possibility of self-reporting biases, although Freeman *et al.* (2005) highlighted that the anonymity of Internet research can reduce the influence, but it is not possible to completely rule it out. There is also concern about multiple entries from the same participant which is another challenge for Internet recruitment. The current study employed a number of strategies to minimize the chances of this; we recruited participants from legitimate organizations such as universities, and entry to the survey site was referred from a link in the email advertisement. This meant that the participant would not be able to participate a second time unless they were sent an email advertisement a second time.

Conclusion

In summary, this study examined the relationship between psychological processes (psychosocial, self-efficacy, thinking style, coping, and control), empowerment, and mental health, well-being, and recovery. Our tentative conclusion from our findings is that empowerment mediates the impact of psychological process such as: psychosocial, self- efficacy, thinking style, coping, and control. Further research using the same measures in a clinical population would help to confirm or refute these findings.

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Table 1. Descriptive statistics from standardized measures (total scores)

Scales (total scores)	Observations (*n*)	Mean	Std. Deviation	Median	Minimum	Maximum
Youth Empowerment Scale (YES)	422	58.80	11.41	59	28	84
General Self-Efficacy Scale (GSE)	421	104.06	28.71	110	30	150
Dysfunctional Attitude Scale (DAS)	362	149.32	40.02	146	70	242
Brief COPE (BCOPE)	405	71.50	19.78	73	29	109
Rotter's Internal and External locus of control scale (RLC)	347	15.62	8.29	15	2	29
General Health Questionnaire (GHQ-12): Likert	407	11.87	7.78	10	0	35
General Health Questionnaire (GHQ-12): Bimodal	407	2.87	3.51	1	0	12
Questionnaire about the Process of Recovery (QPR)	369	62.48	15.71	65	10	88
Significant Others Scale (SOS)	347	133.91	30.99	142	24	168
Thought Control Questionnaire (TCQ): 1.Distraction	421	15.50	3.59	16	6	24
Thought Control Questionnaire (TCQ): 2.Social Control	421	14.34	3.65	15	6	24
Thought Control Questionnaire (TCQ): 3.Worry	421	14.24	3.42	14	6	23
Thought Control Questionnaire (TCQ): 4.Punishment	421	14.68	3.29	15	6	23
Thought Control Questionnaire (TCQ): 5.Reappraisal	421	14.66	3.54	14	6	24
Thought Control Questionnaire (TCQ): Total	421	73.42	14.32	73	40	111
Brief Core Schema Scale (BCSS)	422	50.01	23.37	49	7	96
BBC Well-being Scale (BBC): 1.Psychological	353	30.22	8.94	31	3	47
BBC Well-being Scale (BBC): 2.Physical Health	353	16.56	4.91	17	4	28
BBC Well-being Scale (BBC): 3.Relationships	353	11.84	4.42	12	0	20
BBC Well-being Scale (BBC): Total	353	58.62	17.11	61	12	91

Table 2. Pairwise correlations between measures (total scoring)

Scales	YES	GSE	DAS	BCOPE	RLC	GHQ12	QPR	SOS	BCSS	TCQF1	TCQF2	TCQF3	TCQF4	TCQF5	TCQ	BBCF1	BBCF2	BBCF3
GSE	.465																	
DAS	.472	.361																
BCOPE	.458	.309	.404															
RLC	.311	.289	.137	.220														
GHQ12	.297	.206	.221	.006	.101													
QPR	.547	.557	.432	.304	.179	.330												
SOS	.279	.150	.249	.111	.112	.068	.278											
BCSS	.420	.183	.319	.112	.089	.208	.226	.191										
TCQ Factor 1	.358	.180	.238	.208	.266	.170	.328	.145	.172									
TCQ Factor 2	.373	.109	.228	.226	.250	.161	.319	.140	.177	.639								
TCQF Factor 3	.342	.190	.182	.224	.184	.136	.317	.150	.136	.720	.606							
TCQ Factor 4	.277	.157	.138	.178	.183	.090	.310	.202	.084	.715	.510	.729						
TCQ Factor 5	.286	.180	.120	.183	.206	.120	.338	.163	.065	.436	.468	.518	.569					
TCQ Total	.401	.199	.225	.250	.271	.166	.400	.197	.156	.857	.792	.869	.853	.730				
BBC Factor 1	.537	.447	.416	.400	.236	.317	.481	.129	.270	.292	.277	.236	.226	.182	.300			
BBC Factor 2	.475	.370	.371	.363	.187	.337	.400	.075	.225	.275	.244	.260	.203	.156	.281	.798		
BBC Factor 3	.469	.374	.395	.343	.203	.295	.409	.130	.229	.240	.247	.171	.159	.117	.232	.844	.747	
BBC Total	.538	.436	.426	.402	.229	.339	.471	.123	.265	.293	.278	.242	.217	.170	.297	.970	.897	.914

GSE, General Self-Efficacy Scale; DAS, Dysfunctional Attitude Scale; BCOPE, Brief COPE; RLC, Rotter's Internal and External locus of control scale; GHQ-12, General Health Questionnaire; QPR, Questionnaire about the Process of Recovery; SOS, Significant Others Scale; BCSS, Brief Core Schema Scale; TCQ, Thought Control Questionnaire; BBC, BBC Well-being Scale.

Table 3. Single mediation analysis of independent variable (IV) on dependent variable (DV) by Youth Empowerment Scale (YES)

							Indirect effect		
IV	DV	Observations (*n*)	Total Effect	*SE*	Direct Effect	*SE*	=a*b	Boot *SE*	L95%	U95%
SOS	GHQ-12	333	0.018	0.015	0.002	0.014	0.020	0.007	0.020	0.009
SOS	QPR	347	0.146	0.034	0.070	0.023	0.076	0.021	0.039	0.118
SOS	BBC	347	0.069	0.035	0.017	0.024	0.087	0.024	0.046	0.140
GSE	GHQ-12	407	0.058	0.015	0.020	0.016	0.037	0.008	0.054	0.023
GSE	QPR	369	0.315	0.031	0.212	0.036	0.103	0.017	0.071	0.141
GSE	BBC	353	0.272	0.036	0.131	0.037	0.141	0.020	0.103	0.181
TCQ	GHQ-12	407	0.090	0.025	0.031	0.027	0.059	0.013	0.089	0.035
TCQ	QPR	369	0.453	0.054	0.224	0.053	0.229	0.033	0.161	0.296
TCQ	BBC	353	0.369	0.066	0.064	0.067	0.305	0.042	0.229	0.391
DAS	GHQ-12	348	0.044	0.010	0.016	0.010	0.027	0.006	0.018	0.040
DAS	QPR	350	0.177	0.018	0.064	0.022	0.113	0.016	0.146	0.083
DAS	BBC	349	0.187	0.021	0.073	0.025	0.115	0.018	0.154	0.082
BCOPE	GHQ-12	390	0.003	0.019	0.065	0.018	0.067	0.011	0.092	0.047
BCOPE	QPR	367	0.280	0.039	0.001	0.039	0.279	0.038	0.213	0.359
BCOPE	BBC	351	0.434	0.049	0.129	0.058	0.305	0.049	0.211	0.406
BCSS	GHQ-12	407	0.070	0.015	0.034	0.017	0.036	0.009	0.021	0.055
BCSS	QPR	369	0.157	0.036	0.004	0.030	0.161	0.025	0.212	0.115
BCSS	BBC	353	0.202	0.039	0.023	0.036	0.179	0.026	0.235	0.131
RLC	GHQ-12	333	0.091	0.049	0.004	0.051	0.095	0.022	0.143	0.056
RLC	QPR	347	0.338	0.094	0.001	0.084	0.339	0.062	0.227	0.476
RLC	BBC	347	0.463	0.107	0.117	0.098	0.345	0.062	0.229	0.479

Notes. SOS, Significant Others Scale; GSE, General Self-Efficacy Scale; TCQ, Thought Control Questionnaire; DAS, Dysfunctional Attitude Scale; BCOPE, Brief COPE; BCSS, Brief Core Schema Scale; RLC, Rotter's Internal and External locus of control scale; GHQ-12, General Health Questionnaire; QPR, Questionnaire about the Process of Recovery; BBC, BBC Well-being Scale.

Table 4. Over-arching mediation analysis of independent variable (IV) on dependent variable (DV) by Youth Empowerment Scale (YES)

							Indirect effect		
IV	DV	Observations (*n*)	Total effect	*SE*	Direct effect	*SE*	=a*b	Boot *SE*	L95%	U95%
SOS	GHQ-12	333	0.002	0.014	0.005	0.014	0.007	0.004	0.016	0.001
SOS	QPR	347	0.076	0.024	0.061	0.021	0.015	0.008	0.003	0.034
SOS	BBC	347	0.005	0.025	0.023	0.023	0.018	0.010	0.003	0.041
GSE	GHQ-12	407	0.039	0.017	0.025	0.017	0.014	0.004	0.026	0.007
GSE	QPR	369	0.238	0.035	0.208	0.036	0.030	0.009	0.016	0.051
GSE	BBC	353	0.134	0.035	0.099	0.037	0.035	0.011	0.015	0.060
TCQ	GHQ-12	407	0.067	0.026	0.041	0.027	0.027	0.008	0.049	0.013
TCQ	QPR	369	0.267	0.054	0.211	0.053	0.056	0.017	0.026	0.095
TCQ	BBC	353	0.119	0.064	0.054	0.066	0.065	0.022	0.027	0.113
DAS	GHQ-12	348	0.024	0.010	0.015	0.010	0.009	0.003	0.003	0.017
DAS	QPR	350	0.057	0.021	0.039	0.021	0.019	0.007	0.036	0.008
DAS	BBC	349	0.088	0.024	0.067	0.026	0.021	0.009	0.044	0.008
BCOPE	GHQ-12	390	0.053	0.019	0.075	0.019	0.022	0.007	0.039	0.010
BCOPE	QPR	367	0.008	0.045	0.055	0.044	0.047	0.015	0.022	0.081
BCOPE	BBC	351	0.152	0.055	0.097	0.058	0.054	0.020	0.021	0.097
BCSS	GHQ-12	407	0.046	0.017	0.025	0.018	0.021	0.006	0.010	0.035
BCSS	QPR	369	0.019	0.029	0.025	0.027	0.044	0.013	0.075	0.023
BCSS	BBC	353	0.063	0.033	0.012	0.034	0.051	0.016	0.087	0.024
RLC	GHQ-12	333	0.008	0.054	0.019	0.052	0.027	0.013	0.059	0.005
RLC	QPR	347	0.088	0.086	0.146	0.082	0.058	0.028	0.010	0.124
RLC	BBC	347	0.141	0.098	0.074	0.095	0.067	0.035	0.011	0.145

Notes. All total, direct, and indirect effects highlighted in grey were statistically significant ($p < .05$).
SOS, Significant Others Scale; GSE, General Self-Efficacy Scale; TCQ, Thought Control Questionnaire; DAS, Dysfunctional Attitude Scale; BCOPE, Brief COPE; BCSS, Brief Core Schema Scale; RLC, Rotter's Internal and External locus of control scale; GHQ-12, General Health Questionnaire; QPR, Questionnaire about the Process of Recovery; BBC, BBC Well-being Scale